

FIGURE 1

ATGGCGGGGCGGACACGGGCGCGGGCTCCTGGTGCTGACCTTCTGCCTGCTGTCCGCG 60
 CGCGGGGAGCTGCCATTGCCCCAGGAGACAACCTGTCAAGCTGAGCTGTGATGAGGGACCC 120
 CTGCAAGTGATCCTGGGCCCTGAGCAGGCTGTGGTGCTGGACTGCACTTTGGGGGCTACA 180
 GCTGCTGGGCCTCCGACCAGGGTGACATGGAGCAAGGATGGAGACACTGTACTAGAGCAT 240
 GAGAACCTGCACCTGCTACCCAATGGCTCCCTGTGGCTGTCTCACCCTTAGAGCAAGAA 300
 GACAGCGATGATGAGGAAGCTCTTAGGATCTGGAAGGTCACCTGAGGGCAGCTATTCTGT 360
 CTGGCCACAGCCCGCTAGGAGTGGTGGCCAGCCAGGTTGCTGTGGTCAAGCTTGCCACA 420
 CTCGAAGACTTCTCTGACCCCCAGTCCAGATTGTGGAGGAGAACGGGACAGCACGC 480
 TTTGAATGCCACACCAAGGGCCTTCCAGCCCCATCATTACTTGGGAAAAGGACCAGGTG 540
 ACCGTGCTGAGGAGCCCCGGCTCATCACTCTTCCCAAGTGGCTCCTCCAGATCTTAGAT 600
 GTCCAGGACAGTGATGCAGGCTCCTACCGCTGCGTGGCCACCAATTACGCCCGCCACGA 660
 TTCAGCCAGGAGGCCTCGCTCACTGTGGCCCTCAGAGGGTCTTTGGAGGCTACCAGGGG 720
 CAGGATGTGGTCATTGTGGCAGCCCCAGAGAACACCACGGTAGTGTCTGGACAGAAATGTA 780
 GTGATGGAGTGCGTGGCCTCTGCTGACCCACCCCTTTTGTGTCTGGGTCCGACAGGAT 840
 GGAAAGCCTATCTCCACGGATGTCTCGTTCTGGGCCGGACCAATCTACTCATCGCCAGC 900
 GCGCAGCCTCGGCACCTCTGGAGTCTATGTCTGCCGAGCCAACAAGCCCCCTACGCGTGAC 960
 TTCGCCACTGCGGCTGCTGAGCTCCGAGTGCTTGCTGCCCCAGCCATCTCGCAGGCACCC 1020
 GAGGCGCTCTCGCGGACGCGGGCCAGCACCGCGCGCTTCGTGTGCCGGGCGTCCGGGGAG 1080
 CCACGGCCCGCGCTGCACTGGCTGCACGACGGGATCCCGTTGCGACCCAATGGGCGCGTC 1140
 AAGGTGCAGGGCGGTGGCGGCAGCTTGGTCTCACTCAGATCGGCCTGCAGGACGCTGGC 1200
 TACTACAGTGCGTAGCAGAAAACAGCGCGGGAAGTGCCTGTGCCCTGCGCCCCCTGGCG 1260
 GTAGTGGTGCGCGAGGGGCTGCCCAGCGCCCCGACTCGGGTCACAGCCACGCCCGCTGAGC 1320
 AGCTCCTCTGTGCTGGTGGCCTGGGAGCGGCCTGAGTTGCACAGCGAGCAAATCATTGGC 1380
 TTCTCTCTTCACTACCAAAAGGCAAGGGGAGTGGACAATGTGGAGTACCAGTTTGAGTA 1440
 AACAATGACACCACAGAGCTGCAGGTTCCGGGACCTGGAACCCAACACGGATTATGAGTTC 1500
 TACGTGGTGGCCTACTCCCAGCTGGGGGCCAGCCGAACCTCCAGCCCAGCCCTGGTGAT 1560
 ACCTGGACGATGTCCCCAGCGCAGCACCCAGCTTACCTTGTCCAGCCCCAACCCCTCG 1620
 GACATCAGGGTGGCATGGCTGCCCCCTGCCCTCCAGCCTGAGCAATGGACAGGTGCTGAAG 1680
 TACAAGATAGAGTACGGTTTGGGGAAGGAAGATCAGGTTTCTCCACCGAGGTGCTGGA 1740
 AATGAGACACAACCTACGTTAAACTCACTTCAGCCAAACAAGTGTACCGAGTCCGGATT 1800
 TCAGCTGGCACTGGCGCTGGCTATGGAGTCCCTTCTCAGTGGATGCAGCACAGGACACCT 1860
 GGTGTGCAACAACAGAGCCATGTTCCCTTTGCCCTGCAGAATTGAAGGTGAGGGCAAAG 1920
 ATGGAGTCCCTGGTGGTGTCTATGGCAGCCGCCCTCACCCACCCAGATCTCTGGATAC 1980
 AAACCTACTTGGGAGAGGTGGGAACAGAGGAGGAGGCAGATGGTGACCGCCCCCAGGG 2040
 GGTCTGGAGATCAAGCTTGGGACGTGGGGCCGTGCGGCTGAAGAAGAAAGTGAAGCAG 2100
 TATGAAGTGAACCAAGTATGCTCCCTGGCAGGCCGTACGAGGTGAAGCTCGTAGCTTTCAAC 2160
 AAACACGAGGACGGCTACGCTGCTGTGTGGAAGGGCAAGACGGAGAAGGCGCCACGCCA 2220
 GACCTGCCTATCCAGAGGGGGCCACCGCTGCCTCCTGCCCATGTCCACGCAGAGTCAAAC 2280
 AGCTCCACTTCCATTTGGCTTCGGTGGGAAGAAGCCAGACTTTACCAGTGTCAAGATTGTC 2340
 AACTACACTGTACGCTTCGGCCCCCTGGGGGCTCAGGAATGCTTCCCTGGTCACCTACTAT 2400
 ACCAGCTCTGGAGAAGACATTCTCATTGGCGGCCTGAAACCATTTACCAAGTACGAGTTT 2460
 GCGGTACAGTCCACAGGAGTGGATATGGATGGGCCCTTTGGCTCCGTCGTAGAACGCTCC 2520
 ACCCTGCCTGACCGGCCTTCAACACCTCCTTCTGACCTGCGCCTGAGCCCCCTGACACCA 2580
 TCCACCGTTCCGTTACACTGGTGTCCCCCACGGAGCCCAATGGTGAGATTGTGGAGTAT 2640
 CTAATTCTCTACAGCAACAACCACACCCAGCCGAACACCAGTGGACACTGCTCACCACA 2700
 GAGGGAACATCTTCAGTGCAGAGGTCCATGGCCTAGAGAGTGACACTCGGTATTTCTTC 2760
 AAGATGGGAGCCCGACAGAGGTGGGGCCTGGGCCCTTTTCCCGCTTGCAAGATGTGATT 2820
 ACTCTGCAAGAGACATTCTCAGACTCCTTGGATGTGCACGCCGTACGGGCATCATCGTG 2880
 GGTGTCTGCTGGGCCTTCTCTGCCTCCTGGCCTGCATGTGTGCTGGCCTACGACAAAGC 2940
 TCCACAGGGAAGCCCTTCCCGGATTGTCTCCTCCTCAGGCACCCACAGGAAACCCAGCGCTC 3000
 TACACAAGAGCTCGGCTTGGGCCTCCAGTGTCCCTGCTGCCCATGAGTTGGAGTCCCTC 3060
 GTGCATCCTCGTCCCCAGGATTGGTCCCCACCACCTCAGATGTGGAAGACAAGGCTGAA 3120
 GTACACAGCCTTATGGGTGGCAGTGTTCAGATTGCCGGGGCCACTCCAAGAGAAAGATC 3180
 TCCTGGGCTCAGGCAGGGGGACCAAACTGGGCAGGCTCCTGGGCAGGCTGTGAGCTGCCC 3240
 CAGGGTAGTGGTCCAAGGCCGGCTCTGACCCGTGCTCTGCTGCCTCCAGCGGGAACCGGG 3300
 CAGACACTGCTGCTGCAAGCCCTGGTGTATGACGGCATAAAGAGCAACGGGAGAAAGAAG 3360
 CCGTCCCCAGCCTGCAGGAATCAGGTGGAAGCTGAGGTCATTGTCCACTCCGACTTCGGT 3420
 GCATCCAAAGGATGTCTGACCTCCACCTCCAAGACCTGGAGCCAGAGGAACCACTGACT 3480

FIGURE 2A

GCAGAGACTCTGCCTTCCACGTCTGGAGCTGTGGATCTGTCTCAAGGAGCAGACTGGCTG 3540
GGCAGGGAGCTGGGAGGGTGCCAACCAACAACCAAGTGGGCCAGAGAGGCTCACCTGCTTG 3600
CCAGAAGCAGCCAGTGCCTCCTGCTCCTGCTCAGACCTCCAGCCCAGCACTGCTATAGAG 3660
GAGGCCCCCTGGGAAAAGCTGCCAGCCCAAAGCCCTGTGTCTCTAACAGTCAGCCCAAGC 3720
CTTCCCAGGGCCCCCTGTCTCCTCTGCTCAGGTCCCCCTGAGCAGAAGGCAGATATGGCTCA 3780
GGAACATGCCATGCATGGCTACACATGTGTGTACTAGAGATATCCATAAGTCCTTGGAGC 3840
CTCTTAGGGTCTTTTGGCTGGGGTTGGGGAGAACTTTACTCTCCCTCATATTCTGCATCA 3900
CATACAGGAGGGACTTGAGACACAGCTCTGTGTAATGGACACGTGTGAAGTCGTGTGTGT 3960
GT 4020
GCCTAGTTGACCCTCCGTGGCAGGATGGTGTAAACAGTGATCAGTGCCAGCTCTTTGAGCT 4080
TTTAGCCTTGTACCTAGCCTTTTATTACACTCTGAGAGTGTCTCCAGTGCTGTGTCTAC 4140
AAAGACAGCGCCAGCCCTCTTCTGTCTGCTGTGCTGAGCAGAGTGCCAGTCAACTCCAC 4200
GGGCCTATGACACCGCAGCCTACCAAGCATGGCTGTCTATCCCCCTGGCCTCCTAAGGTC 4260
CAGATGTCTGGGTGAACCCAGCTCAGCTCCCCCTCCTTTGAGCATCTCTGTACCTAATT 4320
TTGTAATCTGGGAAGTGCCCTGGTTTGGGAAATCTTCTTTTCGCACCCTGTCCCTCTCTGCC 4380
CCTTCCTTCATTTGTTCTGGTGATCTGTCTCATGTCTATCTTGTCTCGATTATCCTGGGGCC 4440
CTTCTCTTTCCCATGATGCCCCCTGATTTCCCTCACTGCTGTTTTTCACTTCTGTCTGCCATG 4500
CTTGTCTTTATGTCTGTGTGTGTCTCGTCCCTGAGTTCAACCTATGCACCCTTTCTTAACA 4560
ACATGACTACCTCATGTCTGCTTCAGACCATAGTGTGACCCCTGGGTCCCCACAGCTCCC 4620
CTGCCAACCCTTCTTGGGCAGATGAGCCCACTCCAAGTAGATCTGGAAGAGCCCTTG 4680
TGGCTTGTCTGGCTGCCCTCCCCCTTGGTGTGAGATGAGAAGGTTTTCTATGGAAGAGAT 4740
GAGTCCAGGCTGCACAGGGGAACCCCAAGAAGGGGTAGGGAGTGAAACCAAGAGGCTGA 4800
AAAAAATGGCTGCCACCCATCTGCACAGAGAGATGGGTGTGTGCTTTTGACGTGCAGTC 4860
CTGGCTGAAACTGAAGGGGTGAGGAGAGGGGAGCTACTGGGGCTGCCATGGCTCAGTTCC 4920
CTGACCCTGGAGCCCTGAACCTGGCTTCAGAGTAGCAAAGAGTTTCTCCAAGATGCTGT 4980
AAGGGAAGTCTTTGCATAGGAAAAGGGCGGCTGGCTCATTTTATTTTATCTTTCTTTACA 5040
CTGAATCCCAAATCATCTTACCACAAAGGCCAAGCCTGACTGGTATTTCTGAGTCAC 5100
AAGAGCCATGCCATCTCTCTGGTTTCTCACCTCAGTCATGTCCAGAATTGTGAGATCCA 5160
GTGGCATCTGTGCTCTTGTGTCACATCTTTCTATTTCAACTGGCTGGCAGATCAAGTGT 5220
AACTCTGGCTTCTGGGCCAAGTTAGAAATAACAGTCTATTTTCCCTTTATTTTATTTTA 5280
TTTTATTTTATTTTATGTCTTTTCACTGGAGTTGTAGCTTCTGAAAGCGTCTGTGTTTATT 5340
AGCCTTGTGTGTCACTCATGTTTGACCCCAACCACATTTCCCTTCTCCTCCCCCTCTTCAGC 5400
CAGCCTATGATAACACTAAAGATTATTAATGCTGGCTTCGTATCTCATTAAAGACAGGAT 5460
TGTCACTTGAACCTACTTCTATAGCATTCAAAGTGGCCACGGCCAACACCACCGTATGTTT 5520
CTTCATGTCTCTGAAGGTCAAGAGCCTCATTTTGTTTTCTGGTTAGATTCTTTTCTCTCC 5580
TTGCCTTGAATGAAATAACCGTTTAAACAGTAGGCTCTTAGCATCACACCACATAGTCAT 5640
TCCTCATGTTCTTGTTTAAACAAGCACTTGAGGTTCTGGGTTTAAATTAAATAGCTGCAAA 5700
TGAGACAATTTATAACCCATTAGGCTGGGTGGAAAATTGTTCTCAAAAGCAAATAAGTAA 5760
TAAATCTGGTATCTGCCTATAACTCACAGTTGATAAGAAAGTAGCCAGAAGTCACTAGCA 5820
TTATATATGATTGGGGTTCTGAGTAAGTGGGAGTGTTAGCTTTGTGACTTTGTAGCACC 5880
AGGTCTTATTAGGAAAGTCTGTTGGCCTTTTACAGGGCATTAGTCCCTTTGTGCTTTGCC 5940
ATGGATGCCTTAAGTTCTTTGGAGTCTCATTTAAGAATTCCCTTTTCTCGAAGCATGACAA 6000
GTGTATCGCAATACTTACATGCTCACTCGTTTACCTGGCTTAGTTTGTGCTGGGTTATTT 6060
AATTGCACTTTCCAGCATCATGCTTCTCCTTACAAATATGATATCTTTATTGTTACAC 6120
TAAGGTGTTGATCATGTATCTGTCCCTGTAAAGAATTAATAAACTATTTTCCAGAC 6176

FIGURE 2A

10	20	30	40	50	60	70	80
----	----	----	----	----	----	----	----

MARADTGRGLLVLTFCLLSARGELPLQETTVKLSCEGPLQVILGPEQAVVLDCTLGATAAGPPTRVTWSKGDVLEH
ENLHLLPNGSLWLSPPLEQEDSDDEEALRIWKVTEGSYCLAHSPLGVVASQVAVVKLATLEDFSLHPESQIVEENG TAR
FECHTKGLPAPIITWEKDQVTVPPEPRLITLPKWLLQILDVQSDAGSYRCVATNSARQFSQEASLTVALRGSLEATRG
QDVVIVAAPENTTVVSGQNVVMECVASADPTPFVSWVRQDGKPISTDVIVLGRTNLLIASAQPRHSGVYVCRANKPLTRD
FATAAAELRVLAAPASQAPEALSRTASTARFVCRASGEPRPALHWLHDGIPLRPNGRVKVQGGGSLVITQIGLQDAG
YYQCV AENSAGTACAAAPLAVVREGLPSAPTRVTATPLSSSSVLVAWERPELHSEQIIGFSLHYQKARGVDNVEYQFAV
NNDTTELQVRDLEPNTDYEFYVVAYSQLGASRTSSPALVHTLDDVPSAAPQLTLSSPNPSDIRVAWLPLPSSL SNGQVLK
YKIEYGLGKEDQVFSTEVPNETQLTLNSLQPNKVYRVRSAGTGAGYGVPSQWMQHRTPGVHNQSHVPFAPAE LKVRAK
MESLVVSWQPPPHPTQISGYKLYWGEVGTEEEADGDRPPGGRGDQAWDVGPVRLKKVKQYELTQLVPGRPYEVKL VAFN
KHEDGYAAVWKGKTEKAPTDLPIQRGPPLPPAHVHAESNSSTS IWL RWKKPDFTTVKIVNYTVRFGPWGLRNASLV TYY
TSSGEDILIGGLKPFTKYEFAVQSHGVMDGPF GSVVERSTLPDRPSTPPSDLRLSPLTPSTVRLHWCPT EPNGEIVEY
LILYSNNHTQPEHQWTLTTTEGNIFSAEVHGLESDTRYFFKMGARTEVGPGPFSRLQDVITLQETFSDSLDVH **AVG**
GVG **HL** **LF** **AC** **AG** **LR** **SS** **HR** **EA** **LP** **GL** **SS** **SG** **TP** **GN** **PA** **LY** **TR** **AR** **LG** **PP** **SV** **PA** **HE** **LE** **SL** **VH** **PR** **QD** **WS** **PP** **SD** **VE** **DK** **AE**
VHSLMGGSVSDCRGHSKRKISWAQAGGNWAGSWAGCELPQSGSRPALTRALLPPAGTGQTL LLQALVYDGIKSNRKK
PSPACRNQVEAEVIVHSDFGASKGCPDLHLQDLEPEEPLTAETLPSTSGAVDLSQGADWLGRELGGCQPTTSGPERLTCL
PEAASASCSCSDLQPSTAIIEAPGKSCQPKALCPLTVSPSLPRAPVSSAQVP

FIGURE 2B

10 20 30 40 50 60
 1 AGGCTGGTGGCGCGCGGGCGCGTGTCCCCTGTGGTGCAGGGTGGCCACACTGGCGGGGCG
 61 CCCCCGCGTGGGCCGCTAGCCCAAGATGGCGATGGAGGGGCGGGCGAGCTGGCCGCGGCC
 121 CCGGCCCCCGCGCCGGCCCCCGCTCGGCCCCGGCCCCGGAGGCCCGCGCCCCGCCCCGCG
 181 CGCCGCGCCTCCCGAGCCACTGACGCCCGCGCGCCCTCCCCCGGCGGCGGCCAGGCG
 MetAlaArgAlaAspThrGlyArgG
 241 CCCGGACGCGGCGGCAGCGCCCCGAGCCCGGCCCTATGGCGCGGGCGGACACGGGCCGCG
 splice
 site
 | intron 1 >>
 lyLeuLeuValLeuThrPheCysLeuLeuSerAlaArg |
 301 GGCTCCTGGTGTGCTGACCTTCTGCCTGCTGTCCGCGCGCGGTAAGGGCCCGGTGGCCGCA
 361 GTCGCGAGTGGGCGTCCCCGGCGCCCGCATGCTTGCGCGCCGGGGGCTGTGGGGACTTG
 421 CCCCCAGGGGGTGTGTGTCCTTGCTGTGCACAGCCTGGCACCGTGCGTGTCCCCCTGCGC
 481 GTGGCCCTTGTGCATGTGAG

FIGURE 2C

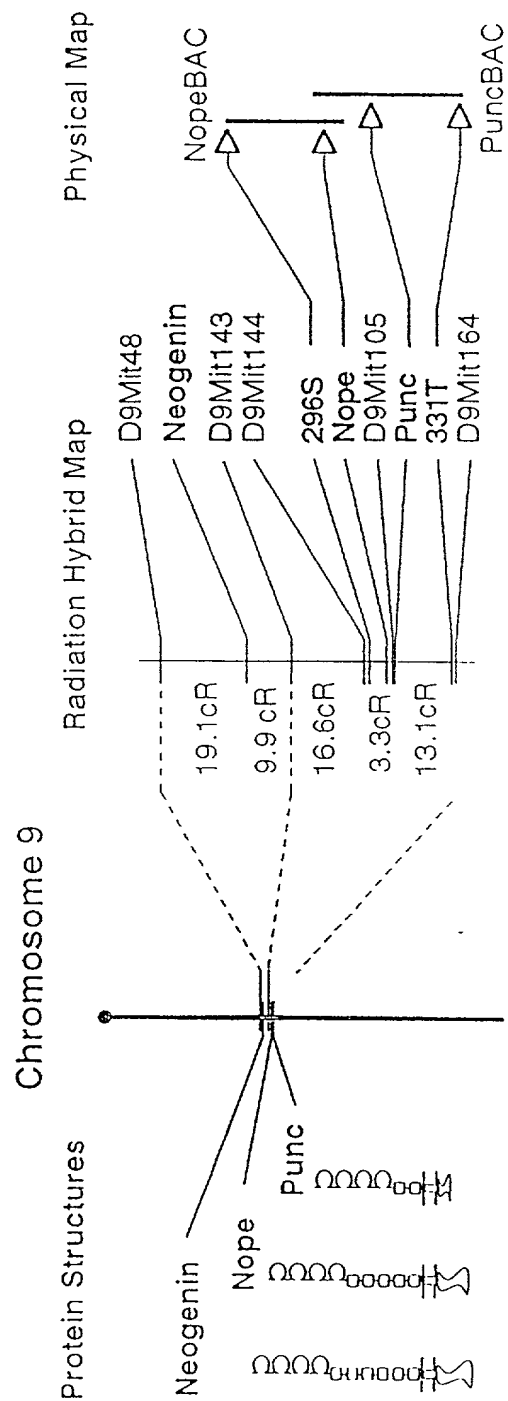


FIGURE 4